NORTH PACIFIC OCEAN

By WILLIS E. HURD

The Aleutian cyclone lay over the Gulf of Alaska throughout all of March except the first three days. It was strong in development and remarkably little subject to the fluctuations in position usually attending its existence. Therefore, while pressure was considerably below the normal from Kodiak to Juneau, it was slightly to considerably above normal west of the Alaskan peninsula. At St. Paul, Pribilof Islands, there was a rise of more than one-half inch over the average for the preceding February. From the parent cyclone 11 distinct LOWS entered the continent north of the United States during the month, some of these later affecting the weather as far south as the Gulf of Mexico.

The North Pacific anticyclone was fairly stable in development, and occupied a great and unbroken area on several days, though it did not extend as far west on the average as usual, pressure being much below the normal at and in the neighborhood of Midway Island. From the 1st to the 5th, and from the 18th to the 26th, the anticyclone was considerably broken up by cyclones which came into it from the westward, or spread southward upon it from the northern base.

The following table gives pressure data for several island and coast stations in west longitudes:

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure at sea level at indicated hours, North Pacific Ocean, March, 1928*

Stations	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Dutch Harbor [1]	29.76	+0.02	30.32	30th	29.34	12th.
St. Paul [1 2]	29.94	+0.19	30.38	30th	29.12	24th.
Kodiak [1]	29.49	−0.26	30.24	2d [6]	28.70	28th.
Midway Island [1 3]	29.91	−0.17	30.32	24th	29.56	20th.
Honolulu [4]	30.04	0.00	30.21	9th	29.84	24th.
Juneau [4]	29.70	−0.24	30.42	1st	28.91	10th.
Tatoosh Island [4 5]	29.90	−0.08	30.27	14th	29.23	26th.
San Francisco [4 5]	30.06	+0.01	30.33	29th	29.77	26th.
San Diego [4 5]	30.05	+0.03	30.19	7th	29.86	12th.

[1] P. m. observations only.
[2] For 30 days.
[3] For 29 days.
[4] A. m. and p. m. observations.
[5] Corrected to 24-hour mean.
[6] And on other dates.

While gales apparently were not less in number over the ocean as a whole than during any of the four or five preceding months, yet March, 1928, witnessed a decrease in the average of gale force, being the mildest month as regards storm violence since September, 1927. There was comparatively little heavy weather due to the Aleutian cyclone, most of the gales over the eastern part of the ocean arising from the traveling cyclones which entered or impinged upon the high pressure region. The most important of these disturbances was one that appeared west of Midway Island on the 20th, then, moving eastward, lay slightly north of the Hawaiian Islands on the 23d and 24th. Subsequently it went northeastward with increased rapidity to the Washington coast, where it lay on the 27th and caused strong winds to moderate gales. This cyclone was rapidly replaced by strong anticyclonic conditions on a part of its course, which resulted in the production of rather sharp barometric gradients along the western third of the California-Hawaii routes, where moderate gales occurred from the 25th to the 27th, and whole gales during the night of the 25th-26th, near 26° N., 150° W.

Higher wind velocities and much stormier weather generally occurred west than east of the one hundred and eightieth meridian, and gales as high as force 11 were experienced by shipping on the 4th, 24th, 25th, and 27th, as noted in the storm report. These high winds were an accompaniment of cyclones traveling eastward from Asia. Other and lesser gales occurred in these longitudes, distributed among 20 or more days of the month, and covering the whole area north of the 24th parallel.

The winds along the tropical American coast were mostly very light, with frequent calms. Northers were reported in the Gulf of Tehuantepec on the 30th and 31st, and off the coast of Costa Rica on the 7th.

The prevailing wind at Honolulu was from the east. The maximum velocity was 28 m. p. h. from the southwest, during the prevalence of the cyclone of the 24th. It was the third warmest March on record at this place.

A considerable increase in fog since February was observed over several parts of the ocean, particularly along the northern routes and over the eastern part of the ocean north of the thirtieth parallel, between longitude 160° W. and the coast. Along and near the coast proper fog was most frequent, with a maximum of occurrence between San Francisco and San Diego, where the percentage was considerably above the normal of 15 to 20 per cent. In east longitudes fog was beginning to appear again, after being practically absent since November. It was reported on the China coast during the early days of the month.